

Management: An Application on Concrete, *Proceedings of the 13th Symposium on Concrete*, Réthimnon, Greece, October 25-27, 1999, 371-382.

8. Koroneos Ch., Fytikas M. and Moussiopoulos N. (2000), Exergy and LCA of Geothermal Energy production in small scale - A case in Greece, *World Geothermal Congress 2000*, Kyushu-Tohoku, Japan, 28 May-10 June, 2000.

III Participation in LCA Networks

1. National Representatives (Moussiopoulos N, Boura A.) on LCHANET (European Network for Strategic Life Cycle Assessment Research & Development). LCHANET is a concerted action in the EU Environment and Climate programme, ENV4-CT95-0153, March '96 - May '97.
2. Representatives (Boura A.) on LCHANet Food (An environmental study - LCA network on foods). LCHANet Food is a con-

certed action in the Food and Agricultural Programme (FAIR), EU-97-3079, November '97-October '99.

3. National Representatives (Boura A, Koroneos Ch.) on CHAINET (European network on chain analysis for environmental decision support). CHAINET is a concerted action in the EU Environment and Climate programme, ENV4-CT97-0477, December '97-November '99.
4. National Representatives (Koroneos Ch.) on the European Program for the Electronic product Industry "SCARE" (Strategic Comprehensive Approach for Electronic Recycling and Reuse). SCARE is under the umbrella of EUREKA, July '98-July '04.

References

- [1] Int. J. LCA (5) 1998, Conference Reports, "First LCA Workshop in Greece", p. 288
- [2] Int. J. LCA (5) 1998, LCA Strategies, "Hellenic Life Cycle Assessment Network (HELCANET)", p. 272

JLCA Corner

Applications of LCA in 'Eco-Products 1999'

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The exhibition 'Eco-Products 1999' was opened from December 10th to 12th, 1999 at Tokyo International Exhibition Center by JEMAI and Nihon Keizai Shimbun, Inc. This is the first exhibition in Japan concerning environmentally-conscious products on a large scale, 274 companies and 14 NGO contributed here. The total number of attendance was 47449 from consumer, enterprise, self-governing body, NGO, etc.

Eco-Products 1999 was held to realize the following objectives,

- (1) Educating product designers to apply LCA into the design for environment and ecolabeling Type III
- (2) Promote the recognition of the importance of life-cycle thinking in the management of enterprise
- (3) Understanding the necessity considering the concepts of life cycle in the selection of products to consumer

Realizations of these objectives promote the recognition of LCA to the executives and product designers of companies and the consumer. As a result of this knowledge, the interests for the LCA National Project of Japan would be increased, and the importance for the applications of the results in this project would become well known to the public.

There are no restrictions on exhibitions, but exhibits should be eco-products, or the processes and technologies for manufacturing eco-products. In this exhibition, 'Eco-Products' is defined as "Product or service that is environmentally efficient throughout its life cycle." Ideally, the criteria for the judgment as to whether the exhibits are Eco-products or not are to have the possibilities of indicating the labeling based on LCA. However, it is difficult for some of contributors to complete LCA, because of the difficulties of applying LCA. So the products that satisfy the requirements prepared by executive committees in advance have been accepted as eco-products.

The companies that exhibit products with the results of LCA are CANON, RICOH, INAX. They applied the results of LCA for their products (copy machine, printer, bath unit, etc.) into the pro-

gram of type III labeling proposed by JEMAI. This type III ecolabeling specifies the inventory table and some of the results of impact assessment classified into the main life cycle stages like preparation, manufacturing, transportation, usage and maintenance, recycle and disposal. Inventory table specifies the consumption of electricity and resources (fossil fuels, water, metal ores, etc.), emission of environmental loading substances (airborne, waterborne) and wastes (incinerated ashes, landfilled, etc). Currently, JEMAI revised the program of type III to promote the application of LCA widely. So far the number of enterprises that approved of this program is 14 and would be increased in the future.

Toshiba, NEC, Hitachi, Fujitsu, Central Research Institute of Electric Power Industry, NIRE and JEMAI demonstrated their own LCA software in this exhibition.

The attended companies that indicate performing LCA in environmental reporting and leaflets are Toshiba, NEC, Toyota Motor, Toyo-Seimai Machine, Honda Motor, Konica, Fujitsu, SONY, Matsushita Electric Industrial, Mitsubishi Electric, Kubota, Shimadzu, Ebara, TOTO, Dai Nippon Printing, TOYOBO.

According to the questionnaire, about 54 percentages of attended consumers replied to purchase eco-products in positive as far as possible after going around the exhibition. Furthermore, the industries of electric appliances, automobile, and business machines that are positive to perform LCA attracted the public. From these results, it can be concluded that Eco-Products 1999 has finished successfully.

The detailed information for 'Eco-Products 1999' like its visitors and a list of exhibitors is shown in the website: http://www.nikkei.co.jp/events/eco/eng/index_e.html.

This year also, 'Eco-Products 2000' will be opened at Tokyo International Exhibition Center on December 14-16. The information related with this exhibition can be obtained from the website: http://www.nikkei.co.jp/events/eco/eng/index_e.html